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DIALOG(R)File 351:Derwent WPI

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WPI Acc No: 1999-380260/199932

XRPX Acc No: N99-285011

Fuel injection control system for dual fuel engine - has gas injector to supply gas fuel at suction port in mean time of closure of exhaust and inlet valves so that electronic controller adjusts liquid fuel and gas injection quantities

Patent Assignee: HIRAOKA T (HIRA-I); NIPPON EKOSU KK (NIEK-N)

Number of Countries: 002 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 11148382	A	19990602	JP 97331223	A	19971114	199932 B

TW 374822 A 19991121 TW 98100205 A 19980109 200041

Priority Applications (No Type Date): JP 97331223 A 19971114

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
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JP 11148382	A		9	F02D-019/08	
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TW 374822	A			F02D-019/10	
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Abstract (Basic): JP 11148382 A

NOVELTY - A gas cylinder (16) is connected to a regulator (18) which adjusts gas pressure. A gas injector (19) injects gas at preset pressure into engine cylinder (1a) via suction port. A pump actuator (32) adjusts fuel supply to liquid fuel injection pump (14). The gas is injected between closing time of exhaust valve and inlet valve.

DETAILED DESCRIPTION - The gas injector and pump actuator are controlled by an electronic controller (30). The injection block (26) equipped with relay path connects suction port and air passage and is arranged between head block and inlet manifold. The gas supply pipe supplies gas fuel near inlet valve.

USE - For engine using gaseous fuel along with diesel, in vehicle.

ADVANTAGE - Improves capacity of multi fuel diesel engine as perfect combustion of liquid and gas fuels is done. Reduces injection gas pressure and simplifies structure of gas injector as gas fuel is injected at suction port in negative pressure condition. Makes multi fuel diesel engine cheap by simplifying control and fuel supply device. Changes existing diesel engine to multiple fuel diesel engine cheaply by installing injection block between head block and inlet manifold. Sends gas fuel reliably without delay by providing gas supply pipe. DESCRIPTION OF DRAWING(S) - The figure shows explanatory drawing of multi fuel diesel engine. (1a) Cylinder; (14) Liquid fuel injection pump; (16) Gas cylinder; (18) Regulator; (19) Gas injector; (26) Injection block; (30) Electronic controller; (32) Pump actuator.

Dwg.1/9

Title Terms: FUEL; INJECTION; CONTROL; SYSTEM; DUAL; FUEL; ENGINE; GAS; INJECTOR; SUPPLY; GAS; FUEL; SUCTION; PORT; MEAN; TIME; CLOSURE; EXHAUST; INLET; VALVE; SO; ELECTRONIC; CONTROL; ADJUST; LIQUID; FUEL; GAS; INJECTION; QUANTITY

Derwent Class: Q52; Q53

International Patent Class (Main): F02D-019/08; F02D-019/10

International Patent Class (Additional): F02D-041/40; F02M-021/02; F02M-021/06; F02M-051/00

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